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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/619,295
Filing Date: July 14, 2003
Appellant(s): LEE, MICHAEL

MAILED

JUL 31 2007

Group 3700

Mr. Jonathon A. Withrow (Reg. No. 54,548)
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 20 February 2007 appealing from the Office action mailed 16 August 2006 and to correct an error of the first Examiner's Answer

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dated 20 June 2007 of not having section (11) which is the Related Proceeding Appendix. The addition of section (11) is the only change from the first Examiner's Answer dated 20 June 2007.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

| | | |
|-----------|----------|---------|
| D244,558 | ELKINS | 5-1977 |
| 4,128,242 | ELKINS | 12-1978 |
| 5,447,311 | VIOLLAZ | 9-1995 |
| 4,438,931 | MOTOMIYA | 3-1984 |

The following is the prior art not relied on but cited as to develop what is known in the art by one skilled in the art at the time of the invention. The examiner used these findings to conclude the meaning of prior art references relied on to persons of ordinary skill in the art and the motivation those references would provide to such persons (In re Berg, 65 USPQ2d 2003 (Fed. Cir. 2003)).

| | | |
|--------------|--------------|--------|
| 6,551,200 | GOLDEN ET AL | 4-2003 |
| 2003/0139225 | RIFE | 2-2005 |
| 5,328,175 | YAMADA | 7-1994 |

4-332573, (Japanese) Head of a golf club, Sogaishi et al, 19 November 1992.

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 6-7, 9-10, 20, 22-23, and 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Elkins (D244,558) in view of Elkins (4,128,242), Viollaz, and Motomiya.

Elkins (D244,558) discloses head having a blade surface and a muscle back surface having an extra mass portion (Fig. 6), a muscle back surface having an upper ledge that generally follows the contour of the top edge (Figs. 1-2), a blade surface being near a top edge and substantially parallel to the front face (Figs. 1-2, and 6-7), a muscle back portion covering at least half of the surface area of the rear surface (Fig. 1), and a thin sole and the distance between the front surface and the rear surface

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adjacent the sole is less than the distance between the front surface adjacent the top edge in the form of the lower edge ends with a point (Fig. 6).

Elkins (D244,558) lacks a cavity disposed in a muscle back portion with the cavity not visible from the exterior of a club and having no visible cavity thereon, a cavity vertically spaced from the sole, a substantial portion of the extra mass portion being positioned below the cavity, an elastomer at least substantially filling a cavity and an elastomer being a polyurethane.

Elkins (4,128,242) discloses a head having a blade surface and a muscle back surface (Fig. 7), a cavity (53) disposed in a muscle back portion with a cavity (Figs. 7-8), a cavity vertically spaced from a sole (Fig. 7) and the cavity not visible from the exterior of a club in the form of being able to pour a filler into the cavity (53) and then placing a plug (55) over the cavity (Col. 12, Lns. 30-45) in order to have the moment of inertia about the center of gravity maximized by positioning weight at the heel and toe and in order to add effective loft to a head by having a center of gravity low (Col. 12, Lns. 19-67). In view of the patent of Elkins (4,128,242) it would have been obvious to modify the head of Elkins (D244,558) to have a cavity disposed in a muscle back portion with the cavity not visible from the exterior of a club and a cavity vertically spaced from the sole in order to have the moment of inertia about the center of gravity maximized by positioning weight at the heel and toe and in order to add effective loft to a head by having a center of gravity low.

Elkins (D244,558) has a lip at the back sole which one skilled in the art may define as forming a cavity on the back of the muscle back portion. Viollaz discloses a

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cavity not visible from an exterior of a club, a cavity vertically spaced from the sole (Figs. 4-5), a thin sole (Fig. 4), a muscle back surface being rounded and having no visible cavity thereon (Figs. 2-3), a substantial portion of the extra mass portion being positioned below the cavity in the form of the bottom cavity wall being a substantial greater thickness than the top cavity wall (Fig. 4) and a cavity substantially filled with a foamed urethane in the form of polyurethane (Col. 2, Lns. 46-50). In view of the patent of Viollaz it would have been obvious to modify the head of Elkins (D244,558) to have no lip where the muscle back surface intersection with the sole surface, and a substantial portion of the extra mass portion being positioned below the cavity in order to have a more rounded intersection where the rear surface and the sole surface intersect and as such have a head with less interaction with the ground when impacting the back of the sole with the ground when impacting a ball on the ground and still have a weighted sole section. As such there would be a muscle back portion having no visible cavity thereon. In view of the patent of Viollaz it would have been obvious to modify the head of Elkins (D244,558) to have the cavity substantially filled with foamed polyurethane in order to provide vibration dampening to a head at impact and in order to utilize a shock absorption material placed inside heads used in the market place.

Motomiya discloses filling a sealed space with an elastic filler material such as foamed urethane and rubber (Col. 2, Lns. 14-16). In view of the patent of Motomiya it would have been obvious to modify the head of Elkins (D244,558) to have a polyurethane being a high rebound foamed elastomer filling a cavity in order to utilize a

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type of urethane shock absorption material used in the market place inserted in cavities of heads.

(10) Response to Argument

In the arguments filed 20 February 2007, the appellant argues:

1. It is improper to use the reference of Viollaz since the examiner stated that a substantial portion of the extra mass portion being positioned below the cavity in the form of the bottom cavity wall being a substantial greater thickness than the top cavity wall which is not the same or renders as obvious a cavity disposed vertically towards an upper portion of the extra mass portion.
2. It is improper to use the references of Elkins since neither reference discloses a cavity disposed vertically towards an upper portion of the extra mass portion.
3. It is improper to modify the references of Elkins to have to have no lip or wide sweeping sole and instead have a more rounded intersection between the rear surface and the sole surface since Elkins desires a low center of gravity for a higher effective loft and what appears to be rearward weight of the of a hollow portion.
4. It is improper to use Elkins to reject the element of the distance between the front surface and the rear surface adjacent the sole being less than the distance between the

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front surface and the rear surface adjacent the top edge because though Elkins has a pointed front of the intersection between the front face and sole the sole is very wide at the bottom of the head.

5. It is improper to use Viollaz to reject the distance between the front surface and the rear surface adjacent the sole is less than the distance between the front surface and the rear surface adjacent the top edge because Viollaz has the opposite as marked up in the Appeal Brief.

6. With respect to item 1, the argument that it is improper to use the reference of Viollaz since the examiner stated that a substantial portion of the extra mass portion being positioned below the cavity in the form of the bottom cavity wall being a substantial greater thickness than the top cavity wall which is not the same or renders as obvious a cavity disposed vertically towards an upper portion of the extra mass portion is disagreed with. The muscle back portion is defined as having an extra mass portion defining a cavity. Therefore the extra mass portion of the applicant's head must be the more dense material (i.e. steel) which surrounds the cavity in the muscle back portion. Clearly the cavity in the head material of the muscle back portion of the iron head of Viollaz is disposed vertically towards an upper portion of the more dense head material of the muscle back portion (See Figure 4). This feature is known in the art as shown by Viollaz. The following is the prior art not relied on but cited as to develop what is known in the art by one skilled in the art at the time of the invention. Three of

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these references were used during the prosecution of this case. The examiner used these findings to conclude the meaning of prior art references relied on to persons of ordinary skill in the art and the motivation those references would provide to such persons. Each of the following references show vertically spaced closed and open cavities both filled and unfilled cavities and fillings from lightweight rigid material to air in portions of a head below a top of a head which has a blade portion (Golden (6,551,200) (Fig. 8A), 4-332573 (Fig. 2), Rife (2003/0139225) (Fig. 23), and Yamada (5,328,175) (Fig. 2). Each of these references show the cavity displaced vertically in an extra mass portion behind a front face.

7. With respect to item 2, the argument that it is improper to use the references of Elkins since neither reference discloses a cavity disposed vertically towards an upper portion of the extra mass portion is disagreed with. It is agreed that Elkins does not show this. This is why Viollaz was used to show that it is known to have a cavity up higher in a muscle back portion as well on a face.

8. With respect to item 3, the argument that it is improper to modify the references of Elkins to have to have no lip or wide sweeping sole and instead have a more rounded intersection between the rear surface and the sole surface since Elkins desires a low center of gravity for a higher effective loft and rearward weight of the of a hollow portion is disagreed with. It is agreed with what Elkins desires to do but as the Examiner has disclosed there are a plurality of hybrid heads with the top part being a blade portion

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and a bottom portion being a muscle back portion where there is a rounded intersections between rear surface and the sole surface with cavities which produce a higher center of gravity. Golfers have an infinite number of different types of swings. Though are some golfer's have a swing which are in need of help in producing loft in the flight of a ball and as such need a head with a low center of gravity to increase dynamic loft. Other golfers do not. It is obvious to modify center of gravity locations vertically in a head or have heads with different center of gravity locations vertically in order to help different golfers who have swings which are different. Some golfer's hit a ball with too much loft. Other golfers hit a ball with not enough loft. See paragraph 6 above with the cited references all having blade upper portions, cavities in the lower portions, thick sole walls and rounded intersections between rear surfaces and sole surfaces. Plus it is very desirable to minimize drag on the sole of a head when impacting a ground so rounded leading edges and trailing edges help minimize this drag.

9. With respect to item 4, the argument that it is improper to use Elkins to reject the element of the distance between the front surface and the rear surface adjacent the sole being less than the distance between the front surface and the rear surface adjacent the top edge because though Elkins has a pointed front of the intersection between the front face and sole the sole is very wide at the bottom of the head is disagreed with. The pointed leading edge of the applicant's head as shown in figure 5 allows this feature to be claimed. Cleary Elkins (D244,558) has even a more pointed leading edge so this claimed feature would be even more apparent on Elkins. How wide the sole is seems

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irrelevant based on how the applicant is measuring this element as shown on page 6 and in figure 5 of the Appeal Brief. If figure 6 of Elkins as shown on page 6 of the Appeal Brief was measure as figure 5 of the applicant's head as shown on page 6 of the Appeal Brief, Elkins clearly has the same claimed element.


10. With respect to item 5, the argument that it is improper to use Viollaz to reject the distance between the front surface and the rear surface adjacent the sole is less than the distance between the front surface and the rear surface adjacent the top edge because Viollaz has the opposite as marked up in the Appeal Brief is disagreed with. The examiner did not use Viollaz to show this but Elkins. Viollaz was used to show polyurethane filler for an iron type head, a thicker sole wall compared to an upper wall for a cavity of a muscle back portion and an iron with no lip or wide sweeping sole.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted, Stephen Blau (Primary Examiner Art Unit 3711)


STEPHEN BLAU
PRIMARY EXAMINER

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Conferees:



Eugene Kim (SPE Art Unit 3711)



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